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Delayed Interval Delivery of Two Remaining Fetuses in Quintuplet Pregnancy After Embryo Reduction: Report and Review of the Literature

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Abstract. A case report is presented with a prolonged interval between delivery of 25 days. A quintuplet pregnancy resulted from hormonal stimulation of ovulation. Two fetuses remained after an embryo reduction was performed at 11 weeks gestation. At 22.5 weeks gestation the first twin (310 g) was delivered after spontaneous rupture of membranes. Using tocolytic agents, the second twin (710 g) was born at 26 weeks of gestation. This case is discussed and a review of the literature is given.

Key words: Embryo reduction, Twin pregnancy, Delayed delivery, Tocolysis

CASE REPORT

A 26-year-old caucasian woman visited our infertility clinic. After analysis, showing a normal uterine cavity on hysterosalpingogram, she finally conceived using human menopausal chorionic gonadotropin injections and donor insemination. A quintuplet pregnancy was demonstrated at ultrasound examination at eight weeks gestation.

Quintuplet pregnancies are associated with an increased frequency of maternal complications and greater perinatal morbidity and mortality [10]. It was therefore decided, after informed consent, to perform embryo reduction in the 11th gestational week, resulting in a twin pregnancy.

Slight vaginal bleeding occurred from week 16 to 18. At 22.5 weeks gestation the patient complained of lower abdominal discomfort and fluid loss. Examination revealed the first fetus (twin A) in the vagina. Subsequently, a living 310 g female neonate was born that died after a few hours. The umbilical cord was cut and ligated with vicryl near the cervix. The gestational sac of twin B was seen to protrude through the internal osti-

um. At this time there were neither signs of placental separation nor clinical signs of infection. Contractions were absent and delivery of the second twin did not occur.

Although only a few cases of successful pregnancy prolongation at this early stage of gestation are reported, the patient and her husband consented in an attempt to postpone delivery of the second fetus. The patient had to maintain bedrest and tocolytic drugs were administered intravenously (ritodrine R). Furthermore, she received intravenous antibiotics for three days (ampicilline 3 g/day and cefotaxim 4 g/day).

Vaginal culture after delivery of twin A showed growth of *Gardnerella Vaginalis*. At regular intervals, vaginal culture, clotting tests and white blood cell counts were repeated. Weekly ultrasound examination showed normal growth of twin B whereas the cervical canal appeared closed. Because of a subfebrile temperature and a gradual rise of white blood cell count, antibiotic therapy was restarted.

At 26 weeks betamethasone was administered intramuscularly to accelerate fetal pulmonary maturation. Two days later, she came into labour despite maximal tocolysis. After artificial rupture of the membranes, a male neonate, twin B, was delivered in breech presentation weighing 710 g, with Apgar scores of 1 and 3 and 6 at respectively one, five and ten minutes. The umbilical cord pH was 7.00. The placentae were delivered immediately afterwards and weighed 580 g together. Furthermore, there were three intact amniotic sacs with autolytic fetuses. The patient's postpartum course was uneventful.

Pathology Findings

Histological examination of the placenta of twin A demonstrated vascular regressive changes. The placenta of twin B demonstrated an acute chorioamnionitis. At autopsy, twin A revealed no congenital anomalies.

Because of respiratory distress, the infant, twin B, was intubated and ventilated. After initial improvement he developed pulmonary interstitial emphysema which required increasing ventilator settings. His further clinical course was complicated by several pulmonary infections. He developed bronchopulmonary dysplasia which was treated with ventilatory support, diuretics and two courses of dexamethasone (the first being stopped because of hyperglycemia). Nevertheless, the clinical condition of the infant deteriorated in several weeks and he died at the age of 3 months. Autopsy was not obtained.

DISCUSSION

The objective of our paper was to review data on management of delayed interval delivery. Literature search resulted in 14 reports since 1957, describing prolonged intervals between the birth of twins or triplets from a normal uterus.

The Table shows the gestational ages at delivery and the prolonged intervals. No first-born infants survived. Of the later born, 13 of the 17 infants survived. In all cases, the first placenta remained in utero without profuse bloodloss or signs of separation. The membranes of the remaining gestational sac were intact.

When active management to postpone delivery of the second twin is tried, there may be a risk of hemorrhage or infection. In 10 cases, the use of tocolytic agents was reported

Table - Delayed interval delivery: review of the literature

Reference	Days of prolon-gation	Weeks of gestation					
		15	20	25	30	35	40
Abrams [1]	35		(392) †		M (1032)		
Drucker et al. [6]	65	375 †			F (1390)		
Eicher [7]	72		(620) †			F (2300)	
Thomson [15]	24		(690) †	CE	M (1192)		
Granitzka et al. [9]	26		S		CE	F (2550)	
Conradt & Weidinger [5]	14		(920) †	CE	M (1650)		
Woolfson [16]	54		(570) †		F (1600)		
Simpson et al. [13]	99		(505) †	CE		F (2580) S	
Omsjo & Alsol [12]	35		(508) †		IP (1060)		
Mikkelsen & Hansen [11]	37		(310) †		M (1060)		
Brion et al. [2]	60	†			PP (750)		
Tacchi & Dunlop [14]	63	(240) †	CE		M (1350) F (1120)		
Cardwell et al. [3]	4-16		(595) † (504) †	CE	M (784)		
Feichtinger et al. [8]	84		(390) †	CE		F (1750)	
de Jong et al.	25		(310) †		PP (710)		

† = perinatal death; S = stillborn; IP = intrapartum death; PP = postpartum death; CE = cervical cerclage; M = male; F = female; In parentheses: weight in grams.

whereas in four cases no tocolytic treatment was initiated [1,6,12,16]. Broad-spectrum antibiotics were given orally or intravenously in all but one case [1].

Cervical cerclage was performed in seven cases (Table). These numbers are too small to prove the benefit of a cerclage. In our case, we decided not to place a cerclage after delivery of the first twin, because of bloodloss and fear of rupturing the amniotic sac of the second twin. Cervical cerclage in the second trimester is not without risk. It is associated with a higher incidence of premature rupture of the membranes and of chori-

oamnionitis as compared with cerclage performed electively in the first trimester [4]. Prophylactic antibiotics are therefore advised for cervical cerclage after the 18th week of pregnancy [4].

In conclusion, whether an aggressive approach, ie cerclage, would have been more successful in the end, remains unclear. Both aggressive and nonaggressive approaches can be successful, as long as infection is prevented.

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